Orbit-Elements of Comet Gale (*b* 1894). By John Tebbutt.

This comet was discovered by Mr. Walter F. Gale, of Paddington, near Sydney, on April 1, and the discovery was communicated to me by him on the 3rd. I was successful in obtaining a set of comparisons on the 3rd, and on the following day I telegraphed the resulting position with the name of the discoverer to the Melbourne Observatory. The first approximate elements are by Mr. R. T. A. Innes, of Sydney, from my observations of the 4th, 8th, and 12th. Another set was derived by Mr. Baracchi, of the Melbourne Observatory, from the Windsor observation of the 3rd, and Melbourne positions for the 7th and 11th; and, lastly, another set was obtained by the Rev. Dr. Roseby, of Marrickville, near Sydney, from the Windsor positions for the 3rd, 6th, and 12th. These three independent results agree remarkably well. I have now much pleasure in sending to you my own determination from the Windsor positions for the 3rd, 12th, and 21st, but they are as yet uncorrected for aberration or parallax. They are as follows:

$T = 1894$ April $13^d{\cdot}53267$. G.M.T.

$\omega = 324^\circ\ 16'\ 19''$

$\Omega = 206\ 19\ 24$ from M. Equinox 1894·0

$i = 87\ 6\ 36$

$\log q = 9{\cdot}992829$

$q = 0{\cdot}98362$

These elements do not differ from those obtained by the three computers already named more than might be expected from the longer arc embraced between the extreme observations. The most interesting feature of the orbit is perhaps its near approach to the Earth's orbit at the ascending node. The passage of the ascending node will occur on May $10^d{\cdot}28$, G.M.T., the difference between the *radii vectores* of the Earth and comet at that point being only 0·0817 of the Sun's mean distance from the Earth. This corresponds to a distance of 7,500,000 miles. The Earth, however, passed the point of near approach a little before Greenwich noon on April 16. I trust to be able to complete a fine series of observations of this comet.

Private Observatory, Windsor, N.S.W.
1894 *April* 29.

Ephemeris of the Satellites of Mars, 1894. By A. Marth.

Greenwich Noon, 1894.		*Phobos.*			*Deimos.*				
	P	a_1	b_1	u_1-U	a_2	b_2	u_2-U	U	B
	°	″	″	°	″	″	°	°	°
July 30	326·47	18·41	− 6·47	122·12	46·06	− 16·19	119·14	339·37	− 20·58
Aug. 1	326·20	18·70	6·50	218·86	46·78	16·26	328·47	340·38	20·35
3	325·95	18·99	6·53	315·64	47·52	16·34	177·83	341·36	20·12
5	325·72	19·29	6·56	52·44	48·27	16·42	27·22	342·32	19·89
7	325·50	19·60	6·59	149·28	49·04	16·50	236·64	343·24	19·66
9	325·30	19·91	− 6·62	246·15	49·83	− 16·58	86·09	344·13	− 19·44
11	325·11	20·23	6·66	343·05	50·63	16·66	295·58	344·98	19·22
13	324·93	20·56	6·69	79·98	51·35	16·75	145·10	345·80	19·00
15	324·77	20·90	6·73	176·95	52·29	16·84	354·65	346·59	18·79
17	324·62	21·24	6·77	273·96	53·15	16·94	204·24	347·34	18·59
19	324·49	21·59	− 6·81	11·00	54·02	− 17·04	53·87	348·05	− 18·39
21	324·37	21·95	6·85	108·08	54·91	17·15	263·54	348·72	18·20
23	324·26	22·31	6·90	205·20	55·82	17·27	113·25	349·35	18·02
25	324·17	22·68	6·95	302·36	56·75	17·40	323·01	349·94	17·85
27	324·08	23·05	7·01	39·57	57·69	17·54	172·81	350·48	17·70
29	324·00	23·43	− 7·07	136·82	58·65	− 17·69	22·65	350·97	− 17·56
31	323·93	23·82	7·14	234·12	59·61	17·86	232·54	351·42	17·43
Sept. 2	323·87	24·21	7·21	331·47	60·59	18·04	82·48	351·82	17·32
4	323·82	24·60	7·29	68·87	61·57	18·23	292·47	352·17	17·23
6	323·78	24·99	7·37	166·31	62·55	18·45	142·51	352·46	17·15
8	323·75	25·39	− 7·46	263·81	63·54	− 18·68	352·61	352·71	− 17·09
10	323·72	25·78	7·56	1·36	64·52	18·92	202·76	352·90	17·06
12	323·70	26·17	7·67	98·96	65·50	19·19	52·96	353·03	17·04
14	323·69	26·56	7·79	196·62	66·46	19·48	263·21	353·11	17·04
16	323·68	26·94	7·91	294·33	67·41	19·78	113·52	353·14	17·07
18	323·68	27·31	− 8·04	32·09	68·34	− 20·11	323·89	353·10	− 17·11
20	323·69	27·67	8·17	129·91	69·24	20·45	174·32	353·01	17·18
22	323·70	28·01	8·32	227·79	70·11	20·82	24·80	352·86	17·27
24	323·73	28·34	8·47	325·72	70·93	21·19	235·34	352·66	17·38
26	323·76	28·65	8·63	63·70	71·70	21·59	85·93	352·40	17·52
28	323·80	28·94	− 8·79	161·73	72·41	− 21·99	296·58	352·08	− 17·68
30	323·85	29·19	8·95	259·82	73·05	22·40	147·28	351·71	17·85
Oct. 2	323·90	29·42	9·12	357·95	73·62	22·82	358·03	351·29	18·05
4	323·96	29·61	9·28	96·12	74·11	23·23	208·83	350·82	18·27
6	324·03	29·77	9·45	194·34	74·50	23·64	59·67	350·32	18·50
8	324·11	29·89	− 9·61	292·59	74·79	− 24·04	270·54	349·77	− 18·75